overnment Canada
Gouvernement du Canada

The Minerals and Metals Policy of the Government of Canada

Partnerships for Sustainable Development

Canada

The Minerals and Metals Policy of the Government of Canada

Partnerships for Sustainable Development

Canada

Catalogue no. M37-37/1996E
ISBN 0-662-25154-7

Additional copies of this publication are available in limited quantities at no charge from:

Minerals and Metals Sector
Natural Resources Canada
Ottawa, Ontario
K1A 0E4

Telephone: (613) 947-6580
Facsimile: (613) 952-7501

This document is also available on Internet through the Natural Resources Canada Web site at:

http://www.nrcan.gc.ca/mms/sdev/policy-e.htm

Cette publication est aussi disponible en français, sous le titre *La politique des minéraux et des métaux du gouvernement du Canada – Des partenariats pour un développement durable.*

No de catalogue : M37-37/1996F
ISBN 0-662-81606-4

This publication is printed on recycled paper.

PRINTED IN CANADA

Foreword

A decade after the federal government last unveiled a minerals and metals policy, and as we approach the end of the 20th century, Canada remains among the foremost producers of minerals and metals in the world, and the leading exporter. The industry continues to play an essential role in Canada's economy. It provides jobs for more than 340,000 Canadians, and is the economic foundation for some 150 communities in Canada's rural and northern regions. These contributions cannot be over-emphasized, for they are an important part of the economic and social fabric of Canadian society.

Yet, as we look ahead to the future of Canada's minerals and metals industry, dramatic change is occurring. This change is brought on by several challenges:

- concerns about the state of our natural environment;
- rapidly growing competitive forces brought on by globalization and the emergence of new mineral-producing countries in the developing world;
- a need for a more efficient and effective federation; and
- the need to achieve sustainable development.

The new Minerals and Metals Policy addresses these challenges and responds to important government commitments. For example, in *Creating Opportunity*, the Government acknowledged that sustainable development must be integrated into the way the Government defines its business and makes its decisions. It also made jobs and growth the centrepiece of its agenda for the 1990s, and committed itself to the renewal of Canada's rural regions. In *A Guide to Green Government*, the Government elaborated upon its commitment to a sustainable development approach. All ministers undertook to ensure that the concept is given due consideration in their respective mandates.

In the *Mining Agenda*, the Government made a commitment to update the 1987 Mineral and Metal Policy and to formulate a strategy for the sustainable development of the Canadian minerals and metals sector. In September 1994, the Minister of Indian Affairs and Northern Development and I, along with representatives of industry, labour, the Aboriginal and environmental communities, and many provincial and territorial governments, signed the *Whitehorse Mining Initiative (WMI) Leadership Council Accord*. WMI participants developed a common vision of a socially, economically and environmentally sustainable and prosperous mining industry in Canada.

In fulfilling these commitments, the Policy represents the first attempt by the Government to incorporate the concept of sustainable development into a comprehensive policy document in the natural resources area. It incorporates many of the principles found in the *WMI Leadership Council Accord*, and supports the Government's agenda for jobs and growth by presenting a framework that promotes the industry's prosperity in Canada.

In the 1996 Speech from the Throne, the Government stated its willingness to withdraw from functions, in such areas as mining, that are more appropriately the responsibility of provincial governments, local authorities or the private sector. The Policy gives effect to the Speech from the Throne by:

- affirming provincial jurisdiction over mining;
- delineating a new role for the federal government in minerals and metals that is tied to core federal responsibilities; and
- committing the Government to pursue partnerships with industry, the provinces and territories, and others in addressing issues within its jurisdiction.

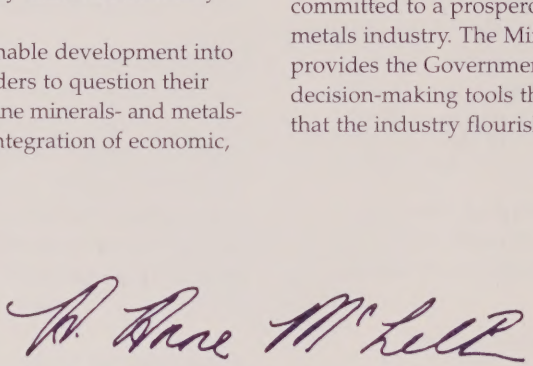
The Policy flows out of an intense consultative process with all stakeholders. It represents an important source of guidance to federal decisions on minerals and metals in the context of sustainable development. For example:

- it sets parameters for federal decisions on minerals and metals, including a recognition of the need for sound science, the importance of global markets, and the benefits of both regulatory and non-regulatory approaches in pursuing environmental protection;

- it commits the Government to continued efforts to secure international mineral investment for Canada and notes the importance of a fiscal and tax environment that recognizes the special challenges of the industry and its global context; and
- it enunciates the Government's support of the principle of safe use of minerals and metals and engages the Government to advance this principle both domestically and internationally.

Turning the concept of sustainable development into practice will require stakeholders to question their old assumptions, and to examine minerals- and metals-related issues in light of the integration of economic, environmental and social objectives. This shift to a multi-disciplinary approach in decision-making will not happen overnight, but I am confident that if we continue to work together, we will be able to achieve our goal of an economically, environmentally and socially sustainable minerals and metals industry.

In times of change, challenges can and should be turned into opportunities. The Government remains committed to a prosperous Canadian minerals and metals industry. The Minerals and Metals Policy provides the Government with the direction and decision-making tools that will help to ensure that the industry flourishes into the 21st century.



Minister of Natural Resources Canada

Executive Summary

The Minerals and Metals Policy of the Government of Canada: Partnerships for Sustainable Development (the Policy) describes, within areas of federal jurisdiction, the Government's role, objectives and strategies for the sustainable development of Canada's mineral and metal resources. These are set out in eight separate parts.

Part I. Introduction

The Policy builds on important commitments and initiatives of the Government including *Creating Opportunity*, the Government's Mining Agenda, *A Guide to Green Government*, the *Toxic Substances Management Policy*, and the principles and goals of the *Whitehorse Mining Initiative (WMI) Leadership Council Accord*. It does this by contributing to three key elements of the Government's agenda: promoting economic growth and job creation, furthering an efficient and effective federation, and meeting the challenge of sustainable development.

Minerals and metals are of vital interest to Canada and are relevant to federal policies and programs because of their substantial contribution to Canada's social and economic well-being. Two important and inter-related developments have implications for Canada: the globalization of the industry, and the mounting need for governments around the world to collaborate in the development of solutions to environmental concerns and other challenges.

Provincial governments are responsible for mining within their respective jurisdictions. In this context, the Government's role in minerals and metals has been more sharply focused on core federal responsibilities, including international trade and investment, science and technology, environmental protection, and Aboriginal affairs. The Government is committed to forging enhanced partnerships with others in exercising its responsibilities in minerals and metals.

The Government has adopted the Brundtland Commission's definition of sustainable development. The Policy applies this definition by identifying the key elements of sustainable development in the context of minerals and metals.

In light of the foregoing, the Policy has six major objectives:

- integrating the concept of sustainable development in federal decision-making affecting the minerals and metals industry;
- ensuring the international competitiveness of Canada's minerals and metals industry in the context of an open and liberal global trade and investment framework;
- advancing the concept of sustainable development of minerals and metals at the international level through partnerships with other countries, stakeholders, and multilateral institutions and organizations;
- establishing Canada as a global leader in promoting the safe use of minerals and metals, and their related products;
- promoting Aboriginal involvement in minerals- and metals-related activities; and
- providing a framework for the development and application of science and technology to enhance the industry's competitiveness and environmental stewardship.

Part II. Federal Decisions in Minerals and Metals: Implementing a Sustainable Development Approach

To achieve sustainable development, environmental, economic and social considerations must be taken into account as early as possible in the decision-making process. To help the Government meet this challenge in the area of minerals and metals, the Policy enunciates a number of principles for sustainable development-based decision-making, including:

- a responsive public policy framework;
- the role of the market mechanism;
- the role of regulation;
- the role of non-regulatory approaches;
- the importance of science;
- endorsement of the concept of pollution prevention;

- affirmation of the precautionary principle; and
- recognition of the polluter pays principle.

Part III. The Business Climate: Ensuring the Competitiveness of Canada's Minerals and Metals Industry

Canada must compete as never before to attract investment capital to sustain its minerals and metals industry. In this environment, all governments must work together to ensure that a positive investment climate is maintained. As a consequence, the Government makes a series of commitments in the spheres of finance and taxation, regulatory efficiency, and investment and export promotion.

The Government affirms its support for the creation of a Canadian Securities Commission, in partnership with interested provinces, and establishes four principles to guide the development of all federal fiscal measures affecting the minerals and metals industry. The Government also sets out a seven-item checklist for the development of any new federal regulatory processes that affect minerals and metals. As well, the Policy states that the industry must continue to assume greater responsibility for environmental performance and for stewardship of minerals and metals throughout their life cycle.

Part IV. Minerals, Metals and Society: Promoting Products, Markets and Stewardship

The Government supports the responsible use and management of minerals and metals. Given Canada's role as a world leader in the production of these commodities, managing issues related to health and the environment is a policy priority. The Policy introduces an approach to the responsible use and management of minerals and metals called the *Safe Use Principle*.

The *Safe Use Principle* takes a life cycle-based approach to the use and management of minerals and metals, including the application of risk assessment and management strategies, in accordance with well-established stewardship practices. The Principle builds on and complements the *Toxic Substances Management Policy* (TSMP). In doing so, it sends the message domestically and internationally that minerals and metals and their products can be used safely and responsibly.

Recycled minerals and metals constitute an important source of secondary materials for industry, and generate environmental benefits. As a consequence, the Government will work to: enhance the efficiency and effectiveness of regulations; promote a more efficient metals recycling industry in Canada; advance recycling as a feature of product design; and, at the international and domestic levels, promote common approaches to the definition of waste (including a distinction between metal-bearing recyclables destined for recovery and wastes destined for final disposal).

The federal government has a role to play in the reclamation of mine sites within its areas of responsibility, including establishing fiscal and regulatory conditions respecting reclamation for mine development on federal lands. The Policy recognizes the need to clean up those abandoned and orphaned mine sites within federal jurisdiction that represent an unacceptable risk to the environment or human health and safety. It also acknowledges the need for site owners, where they can be identified, to pay for clean-up costs.

Land access for mineral exploration and development is necessary if the minerals and metals industry is to continue to contribute to Canada's economic and social well-being. In regard to Canada's ocean territory, that access will be determined through an integrated oceans governance strategy adopted by the Government. In addition to land access, governments must provide reasonable certainty to the industry that when it finds a mineral deposit, it can develop that deposit.

The Government affirms its commitments respecting the completion of the National Parks network and the establishment of National Marine Conservation Areas. It also remains committed to identifying and protecting terrestrial and marine critical wildlife habitat in Canada, and developing and implementing protected area strategies for federal lands and waters. In meeting these commitments, the Government will follow certain guidelines that recognize the important economic and social role played by the minerals and metals industry in Canada.

Part V. Aboriginal Communities: Promoting Involvement in Minerals and Metals Activities

Aboriginal concerns and interests in relation to mineral development are important factors in the Government's policy approach. The Government also respects existing provincial, territorial and municipal mechanisms for mineral development. Within matters of federal jurisdiction, it promotes cost-effective regimes for the sustainable development of minerals and metals on lands under claim, settlement areas, and Indian reserves.

The Government affirms its support for the timely resolution of land claims to remove uncertainty over the ownership and use of land and resources, as well as to encourage self-reliance by Aboriginal communities and promote their participation in economic opportunities.

The Government acknowledges Aboriginal concerns about the effect of mineral exploration and development on traditional lifestyles and the environment, as well as the desire of Aboriginal peoples to be involved in decision-making. Collaboration between the industry and Aboriginal communities is encouraged. The Government supports partnership approaches involving Aboriginal communities and the industry.

Part VI. Science and Technology: Progress through Innovation

Science and technology (S&T) play a critical role in the health and well-being of Canadians, our ability to protect the environment, and our success in creating jobs and fostering economic growth. Federal S&T activities that are based on associated goals (i.e., job creation and economic growth, improved quality of life, and the advancement of knowledge) will continue to support sustainable development objectives. In addition to focusing on these goals in an integrated manner, the Government supports the development of stronger science-policy linkages.

In this light, the Government is committed to pursuing a number of goals related to Canada's S&T activities in relation to minerals and metals. It also affirms its commitment to promote partnerships among stakeholders in pursuing these goals.

The Government will pursue the following strategic, long-term directions in S&T related to minerals and metals:

- providing a comprehensive geoscience information infrastructure;
- supporting a sustainable minerals and metals industry (through the use of S&T to promote technological innovation both in mining operations and in the safe and efficient use of minerals and metals);
- enhancing the health and safety of Canadians;
- promoting the competitiveness of the Canadian industry; and
- developing value-added mineral and metal products.

Part VII. Minerals and Metals at the International Level: Providing Leadership in the Implementation of Sustainable Development

Canada plays a leadership role at the international level, deriving from its position as the world's largest exporter of minerals and metals and a major player in the promotion of sustainable development, including the implementation of the Rio Summit's *Agenda 21*. The international nature of many of the pressures on the sector and the lessons learned to date, including the potential of initiatives aimed at environmental, health and social concerns to affect the competitiveness and acceptability of minerals and metals in the marketplace, requires an effective and flexible response by the Government.

The Government reaffirms its commitment to a liberalized, predictable, rules-based international trading and investment regime. It also sets out objectives and conditions for the promotion of the sound management of minerals and metals through a variety of instruments from legally binding agreements to government-sponsored non-regulatory approaches to voluntary industry initiatives. Central to the Government's approach are the concepts of risk assessment, risk management, and the application of the *Safe Use Principle*. The Government reaffirms the value of bilateral and regional cooperation, and makes a commitment

to continue to provide technical cooperation based on Canada's solid foundation of minerals- and metals-related knowledge, expertise and world-class technology.

Part VIII. Measurement and Follow-Up

Part VIII focuses on the effective implementation of the Policy, noting the importance of developing sustainability criteria and indicators related to minerals and metals. The Policy recognizes the need for ongoing accountability for, and assessment of, results that flow from the Policy. To this end, the Minister of Natural Resources, in cooperation with other federal departments and agencies, will issue periodic progress reports on its implementation.

Table of Contents

Page

I. Introduction

The Minerals and Metals Policy of the Government of Canada: Partnerships for Sustainable Development sets out, within areas of federal jurisdiction, the Government's role, objectives and strategies for the sustainable development of Canada's mineral and metal resources.[1] The Policy builds on relevant federal policy initiatives, including *Creating Opportunity*, the Government's Mining Agenda, *A Guide to Green Government*, and the *Toxic Substances Management Policy*. It also builds on *Sustainable Development and Minerals and Metals: An Issues Paper*, which was released by the Minister of Natural Resources in September 1995. That Paper developed a conceptual foundation for the application of sustainable development to minerals and metals.

The Policy represents an important step by the federal government to advance the principles and goals of the Whitehorse Mining Initiative (WMI). WMI participants – industry, the environmental community, Aboriginal groups, labour, academics, and federal, provincial and territorial governments – developed in their *Leadership Council Accord* a shared vision of a "socially, economically and environmentally sustainable, and prosperous mining industry, underpinned by political and community consensus."

In developing this document, the Government has consulted widely with stakeholders, including provincial and territorial governments, as well as others associated with the WMI.

The Policy defines a flexible and supportive role for the Government of Canada towards the minerals and metals industry. It recognizes the responsibilities of the provincial and territorial governments and their need – with industry – to respond to their particular circumstances and challenges. The Policy is not a uniform, national blueprint for mineral development or the implementation of sustainable development. This would be incompatible with Canada's federal structure, and the realities of both a large and diverse country and a heterogeneous minerals and metals industry.

1 Minerals are defined here as nonmetallic industrial minerals and coal. Metals are understood in the broad sense as all forms, i.e., metallic minerals, compounds, solutions, alloys, etc.

While the Minister of Natural Resources has principal responsibility for this Policy, it also touches on the responsibilities and mandates of a number of other federal ministers. Furthermore, this Policy is intended to be consistent with approved government policies that advance the Government's economic, social and environmental agendas, including those related to, for example, protected areas, toxic substances, and fiscal matters.

The Government is committed to forging enhanced partnerships...

PURPOSE

The Policy contributes to three central elements of the federal government's agenda:

Promoting Economic Growth and Job Creation

A cornerstone of the Policy is that the minerals and metals industry is a major contributor to Canada's economic well-being. It is also vital to the economic and social cohesion of many rural and remote communities. The Policy recognizes that Canada faces increased global competition for investors and capital, and that if this competition is not adequately addressed, the industry's ability to generate wealth and employment for Canadians will seriously diminish. Consequently, the document addresses those areas within federal jurisdiction that are important to attracting new investment and establishing a positive investment climate internationally.

...the minerals and metals industry is a major contributor to Canada's economic well-being.

Furthering an Efficient and Effective Federation

The Policy helps the federal government to meet its commitment to define a renewed and more effective relationship with the provinces and territories in the area of minerals and metals. The document is based on a fundamental recognition by the Government of Canada of provincial ownership and management of mineral resources. Within this context, the Policy delineates a role for the federal government in relation to the Canadian minerals and metals industry that is focused on core federal responsibilities.

Meeting the Challenge of Sustainable Development

The Government is committed to meeting the challenge of sustainable development in its policies and programs. The Policy supports this goal by defining sustainable development in relation to minerals and metals, and outlining a federal approach to decision-making for minerals and metals issues based on this important concept. It also sets out policy and science directions for addressing specific minerals- and metals-related concerns in the context of sustainable development.

THE RELEVANCE OF MINERALS AND METALS TO CANADA

Minerals and metals are, and will continue to be, of vital interest to Canada and, consequently, to federal policy and program agendas in the years ahead. There are two reasons for this:

The Economic Contribution of Minerals and Metals

Canada's minerals and metals industry:[2]

- is a world leader in the production of many mineral and metal commodities, of which approximately 80 percent are exported;
- is a capital-intensive, high-technology-driven industrial sector that plays an important role in Canada's "new economy" as a purchaser of advanced technological goods and services, a supplier of new materials, and a significant employer;
- is one of the few industrial sectors that consistently contributes to Canada's balance of trade – representing over one third of our merchandise trade surplus in 1995;
- accounts for almost 60 percent of the volume of Canada's rail and intra-coastal freight;
- currently employs more than 340,000 Canadians and sustains or contributes to the economic viability of over 150 communities, mostly in rural and remote areas of Canada; and
- generates substantial additional employment for Canadians, not only in mineral exploration, production and processing, but also in environmental services and in a range of supporting, value-added and down-stream sectors such as transportation, equipment maintenance, specialized equipment manufacturing, semi-fabrication, fabrication, and construction.

Many of the factors that affect the ability of the minerals and metals industry to continue to make this contribution are within the policy purview of the federal government.

The Globalization of the Minerals and Metals Industry

The second reason why minerals and metals will continue to be important to the federal government has two inter-related dimensions:

- the increasingly global nature of today's minerals and metals industry; and
- the mounting need for governments around the world to collaborate in the development of solutions to environmental concerns and other challenges.

The globalization of the industry and the international scope of many issues, including environmental concerns, has changed the landscape for policy-making in ways that are being addressed by the federal government. New issues frequently, and sometimes unexpectedly, emerge beyond our borders, challenging the Government to respond in an effective and flexible manner. International organizations and institutional mechanisms have become important venues for resolving social, economic and environmental concerns. As a consequence, Canada must continue to be an active, effective and influential partner on the international stage, both at the multilateral and bilateral levels. We will need to forge stronger partnerships with countries that share our views and concerns, and to promote our interests vigorously and persuasively in all international spheres in order to manage effectively our participation in international organizations, processes and relations.

...Canada must continue to be an active, effective and influential partner on the international stage...

2 For the purposes of this Policy, the minerals and metals industry is defined as including:
Stage I: primary mineral production (exploration, mining and concentrating);
Stage II: metal production (smelting and refining);
Stage III: minerals and metals-based semi-fabricating indutries; and
Stage IV: metal fabricating industries.

Globalization presents both challenges and opportunities for Canada. Successive trade liberalization efforts by the members of the *General Agreement on Tariffs and Trade*/World Trade Organization (GATT/WTO) have resulted in markets that are more open to exports of Canadian minerals and metals and their products. The conclusion of the GATT Uruguay Round of multilateral trade negotiations promises to extend these open markets to trade in services and eventually foreign investment.

Concurrent with this trend towards more open trade and a greater reliance on trade rules, there has also been a significant change in attitudes towards foreign investment. Where many governments were once hesitant to accept this investment in their minerals and metals sector, they now actively compete to attract it. As a consequence, Canada must compete aggressively for a share of finite investment capital. All governments in Canada must work together to ensure that a positive investment climate is maintained and that potential foreign investors are made aware of what Canada has to offer as a destination for capital.

As a world leader in the exploration for, and production and export of, minerals and metals, their products, and related services, Canada also has considerable interest and expertise in questions involving these commodities in relation to human health and the environment. Canadian industry and governments have made substantial progress in avoiding or mitigating the adverse environmental effects of minerals- and metals-related activities and products. However, there remains an ongoing need for policy coordination to promote the efficient use of scientific and other resources.

...Canada must compete aggressively for a share of finite investment capital.

The growing influence on domestic issues of internationally driven initiatives and trends must also be reflected in domestic policy- and decision-making processes. In a global economy, the federal government must be sensitive to international developments in order to maintain competitiveness and ensure that policy responses at the international level do not have a negative impact on national interests. As a consequence, the Government must take international factors into account in assessing and responding to emerging domestic issues that may affect the minerals and metals industry.

THE ROLE OF THE FEDERAL GOVERNMENT IN MINERALS AND METALS

Provincial Jurisdiction

Provincial governments are responsible for mining – the exploration for, and the development and extraction of, mineral resources, and the construction, management, reclamation and close-out of mine sites – within their jurisdiction. Comparable, direct federal involvement in the regulation of mining operations is limited and specific in nature. It includes uranium in the context of the nuclear fuel cycle (i.e., from exploration through to its final disposal, including both reactor and mine waste), mineral activities related to federal Crown corporations, and mineral activities on federal lands and in offshore areas.

In particular, the federal government, through the Department of Indian Affairs and Northern Development, is directly responsible for mining activities North of 60°, including mineral exploration and extraction, the development, management and reclamation of mine sites, and the collection of resource revenues and royalties in the Yukon and Northwest Territories. **The Government, however, is committed to reducing its role North of 60° by devolving provincial-type jurisdictional responsibilities to the territorial governments.** Devolution of these responsibilities will result in "made in the North" decision-making concerning the development of mineral resources in the Territories.

Provincial governments are responsible for mining...

Core Federal Responsibilities

Since 1994, the federal government has reduced and refocused its role in minerals and metals. For example, it has withdrawn from programs providing direct financial support to the industry and has significantly streamlined the organization and budget of Natural Resources Canada, the focal point of minerals and metals activities at the federal level. This action reflects the Government's commitment – which was also expressed in the 1996 Speech from the Throne – to operate only in areas of federal jurisdiction, and to do so in a cost-effective manner.

While its direct involvement in mining operations is limited, and its minerals- and metals-related activities are reduced and streamlined, the Government recognizes the importance of the industry to Canadians. It also clearly understands that its policies – particularly those of a fiscal nature – and its various regulatory responsibilities in areas such as environmental protection, fisheries management, navigable waters, and taxation, significantly affect the minerals and metals industry. Core federal responsibilities relevant to the industry include:

This action reflects the Government's commitment... to operate only in areas of federal jurisdiction...

- international affairs, trade, and investment;
- fiscal and monetary policy;
- science and technology;
- Aboriginal affairs;
- Crown corporations and federal lands;
- environmental protection and conservation (a shared responsibility with the provinces);
- integrated management of ocean-related activities;
- fisheries and fish habitat management;
- navigable waters management;
- health (a shared responsibility with the provinces);
- national coordination of joint federal-provincial responses to policy issues;
- international developmental assistance;
- regulation of all activities related to mineral development in the territories;
- national information and statistics on minerals and metals; and
- nuclear energy, including uranium mining.

Progress through Partnerships

Partnerships with the provinces in their role as owners and managers of mineral resources are an essential and fundamental feature of how the federal government does, and will continue to, conduct business in the minerals and metals area. Partnerships with other stakeholders, particularly the industry and non-governmental organizations, are also important factors in the federal government's approach to managing minerals and metals issues within its jurisdiction.

Building and strengthening partnerships and using consultative approaches are also important aspects of ensuring Canada's continued influential role in international organizations and other global fora that touch on minerals and metals issues.

As a priority, therefore, the Government's responsibilities will be exercised and solutions achieved by strengthening existing collaborative and consultative mechanisms. Where appropriate, new bilateral and multilateral vehicles will be developed in an effort to reflect the diversity of stakeholder interests.

While nurturing these partnership vehicles, the Government remains committed to eliminating any remaining inefficiencies resulting from shared jurisdictions and developing more efficient and effective arrangements for the delivery of services.

DEFINING SUSTAINABLE DEVELOPMENT IN THE CONTEXT OF MINERALS AND METALS

The World Commission on Environment and Development (the Brundtland Commission) defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." This definition has been accepted by the Government of Canada and represents a point of departure for applying the concept to minerals and metals. As a building block of this Policy, sustainable development in the context of minerals and metals is considered as incorporating the following elements:

"development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

- finding, extracting, producing, adding value to, using, re-using, recycling and, when necessary, disposing of mineral and metal products in the most efficient, competitive and environmentally responsible manner possible, utilizing best practices;

- respecting the needs and values of all resource users, and considering those needs and values in government decision-making;
- maintaining or enhancing the quality of life and the environment for present and future generations; and
- securing the involvement and participation of stakeholders, individuals and communities in decision-making.

In defining sustainable development in the context of minerals and metals, it should be recognized that the economic and social benefits of mineral development are not all consumed by the present generation. Current investments in human and physical capital benefit future as well as present generations.

THE OBJECTIVES OF THE MINERALS AND METALS POLICY

In meeting the desire of Canadians for economic growth and job creation, a more efficient and effective federation, and the implementation of sustainable development, the Government of Canada has established in this document six principal policy objectives:

- to integrate the concept of sustainable development in federal decision-making affecting the minerals and metals industry;
- to ensure the international competitiveness of Canada's minerals and metals industry in the context of an open and liberal global trade and investment framework;
- to advance the concept of sustainable development of minerals and metals at the international level through partnerships with other countries, stakeholders, and multilateral institutions and organizations;
- to establish Canada as a global leader in promoting the safe use of minerals and metals, and their related products;
- to promote Aboriginal involvement in minerals- and metals-related activities; and
- to provide a framework for the development and application of science and technology to enhance the industry's competitiveness and environmental stewardship.

Within these broad objectives are specific policy initiatives and approaches that constitute the Government of Canada's strategy for minerals and metals. Consistent with federal fiscal objectives, all activities are to be undertaken within available financial resources.

II. Federal Decisions in Minerals and Metals: Implementing a Sustainable Development Approach

SUSTAINABLE DEVELOPMENT AS THE INTEGRATION OF ENVIRONMENTAL, ECONOMIC AND SOCIAL OBJECTIVES IN DECISION-MAKING

The exploration, development, production, use, re-use, recycling and disposal of minerals and metals inevitably involve the need to integrate environmental, economic and social considerations in decision-making. The sustainable development challenge is to ensure that each of these three elements is taken into account fully and as early as possible in the decision-making process.

PRINCIPLES FOR SUSTAINABLE DEVELOPMENT-BASED DECISION-MAKING

To ensure that environmental, economic and social considerations are integrated effectively in its decisions on minerals and metals issues, the Government will be guided by the following principles:

A Responsive Public Policy Framework

The minerals and metals industry requires a stable and predictable public policy framework that is responsive to the particular conditions that characterize it, including the risks associated with exploration investment, the long lead times and high costs of bringing a project into production, and the cyclical nature of commodity markets.

As well, the framework should recognize that mining operations can put stresses on the environment, and that they must be undertaken in a cost-effective manner that minimizes or mitigates adverse environmental and social impacts. Consequently, government decision-makers should incorporate the principles of sustainable development into their respective policy frameworks to ensure that these impacts are addressed in their review and decision-making processes.

The Role of the Market Mechanism

The competitive market mechanism is the most effective means of allocating resources among alternative activities and investments. The Government recognizes that the industry must compete internationally on the basis of production costs. In such an environment, the viability of the minerals and metals industry cannot be maintained through artificial support. Consequently, the Government is of the view that it is primarily the private sector that must assess the risks and marshall the resources for its investment decisions.

The Role of Regulation

Regulatory intervention is sometimes required to ensure that societal objectives are met. Indeed, regulations play a central role in furthering the Government's efforts to protect the natural environment, and public health and safety. The regulatory framework, however, should:

- recognize, in the context of federal-provincial relations, the benefits of, and the need to strive to achieve, harmonization and the avoidance of duplication;
- be performance-based rather than prescriptive;
- minimize uncertainty, delay and costs to ensure that Canadian resource opportunities can compete in a global marketplace; and
- take full account of underlying market forces.

The Role of Non-Regulatory Approaches

Non-regulatory approaches sometimes offer the most efficient means of meeting a desired policy objective, and are thus important to governments and industry as a complement to regulation. These approaches include environmental performance agreements, memoranda of understanding, codes of practice, guidelines, and other voluntary initiatives. Important features are provisions to ensure inclusiveness in policy development processes, transparency of decisions, accountability for results, and recourse in the event of unacceptable performance.

The Importance of Science

Federal policy decisions – in both the domestic and international context – should be based on the best available information and science. The importance of science to proper risk assessment is also acknowledged.

Endorsement of the Concept of Pollution Prevention

The Government's *Pollution Prevention: A Federal Strategy for Action* defines pollution prevention as the use of processes, practices, materials, products or energy that avoid or minimize the creation of pollutants and wastes, and reduce the overall risk to human health and the environment. Pollution prevention encourages the kinds of changes that are likely to lead to lower production costs, increased efficiencies and more effective protection of the environment.

Affirmation of the Precautionary Principle

The precautionary principle is an important factor when the Government needs to make a decision in the face of scientific uncertainties about cause and effect, and when the potential environmental consequences are generally considered to be serious or irreversible. This principle was enunciated clearly as Principle 15 in the 1992 *Rio Declaration on Environment and Development* (the Rio Declaration) of the United Nations Conference on Environment and Development (UNCED), to which Canada is a signatory:

> "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

The principle complements science-based approaches for the management of risks. Its use is premised on the recognition that our scientific understanding of the potential magnitude and consequences of impacts on human health and the environment of the production and uses of some minerals and metals may be incomplete. While there is a need to work toward closing such gaps in our understanding, there is also a requirement, where potential impacts are "serious or irreversible," to consider a cost-effective precautionary approach.

Recognition of the Polluter Pays Principle

The polluter pays principle, as expressed in Principle 16 of the Rio Declaration, is also an important factor. It provides that:

> "National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment."

III. The Business Climate: Ensuring the Competitiveness of Canada's Minerals and Metals Industry

ATTRACTING INVESTMENT: "CANADA IS OPEN FOR BUSINESS AND COMMITTED TO SUSTAINABLE DEVELOPMENT"

With the globalization of capital markets and the liberalization of investment regimes around the world, Canada must compete, as never before, for mineral investment capital. Given comparable geological potential, mineral capital will be attracted to countries that are politically stable and that have competitive tax rates, efficient infrastructure, a skilled labour force, and efficient and predictable policies and regulations.

In this environment, all governments in Canada must work together to ensure that a positive investment climate is maintained, and that domestic and foreign investors are adequately and accurately informed about the quality of that investment climate. These challenges require two related initiatives by governments: the improvement of the investment climate through policy, regulatory and fiscal reforms, and the effective promotion of the improvements achieved through those reforms. Significant progress has been made by the federal government in both regards. Nevertheless, room for improvement remains.

Efforts by the Government to address the challenge of improving the investment climate are outlined below.

To address the need to inform investors, **the Government will continue to promote Canada as a leading source of mineral and metal commodities, minerals- and metals-related semi-fabricated and fabricated products, and minerals- and metals-related technology and services**, including technology and consulting services in such fields as mineral exploration, environmental protection and management. It will undertake these activities in close collaboration with the industry and provincial and territorial governments, utilizing the "Team Canada" approach.

FINANCE AND TAXATION

Canada has become one of the world's principal venture capital markets for mineral exploration and development. Obstacles remain, however, to the ready access by firms to risk capital. Consequently, the Government supports, in partnership with interested provinces, the reduction of the multiple securities-related regulatory requirements for raising investment funds through the development of a Canadian Securities Commission and other appropriate mechanisms. Such action would help make securities regulations and capital markets across Canada more coordinated and efficient, thus facilitating the raising of risk capital, especially for the junior sector.

Canada has become one of the world's principal venture capital markets for mineral exploration and development.

The Government's fiscal regime is an important component in promoting investment, maintaining competitiveness and ensuring a positive investment climate. The Government has introduced many important fiscal improvements. These have been based on the principles of fairness, simplicity, economic growth, stability of revenues, and competitiveness.

In developing new fiscal measures, and in recognition of the important role that the minerals and metals industry plays in the Canadian economy, **the Government will:**

- **afford the minerals and metals industry fiscal treatment that recognizes exploration risk, ore reserve risk, and other specific risks unique to the sector;**
- **provide, to the extent possible, fiscal treatment to the Canadian industry that is competitive with the type of treatment afforded by other governments to mineral developers and producers operating in their jurisdiction;**
- **seek to ensure that government measures aimed at cost recovery reflect the cost of providing the goods or services received.** Such measures should also be developed in consultation with industry and take into account competitiveness concerns; and

- **within areas of federal jurisdiction, maximize the benefits for Canadians of their mineral resource endowment by ensuring that royalty rates and mining taxes are set at an equitable level**, taking into account the industry's need to realize a return on its investment that is reflective of the risk taken and opportunity costs involved, and bearing in mind that Canada's mineral endowment is largely a publicly owned resource.

REGULATORY EFFICIENCY

Regulatory instruments are an important means for the federal government to achieve public policy objectives. The efficiency and effectiveness of these regulatory regimes have a substantial impact on Canada's investment climate and the international competitiveness of Canadian mineral producers.

The Government recognizes the vital role that regulations play in achieving Canada's environmental, economic and social objectives. It also clearly understands the need to ensure that they do not impose unnecessary costs and other burdens on minerals and metals activities. Regulatory reform, as an ongoing process, contributes to a more efficient national environmental framework. Consequently, **the Government is committed to continuing to streamline environmental regulations affecting mining, while maintaining high standards of environmental protection**. In undertaking those reforms, and in establishing any new regulatory processes, the Government will:

The efficiency and effectiveness of...regulatory regimes have a substantial impact on Canada's investment climate...

- ensure the early involvement of stakeholders in defining a problem and developing regulatory approaches;
- ensure that a broad range of non-regulatory approaches are considered as alternatives or complements to regulation prior to making any decisions to develop new regulations;
- strengthen processes for federal-provincial cooperation and harmonization (e.g., environmental management and freshwater fish habitat protection), notably through multilateral, bilateral, industry-specific or project-specific agreements;
- develop, in consultation with the provinces and territories, national goals and standards, particularly in air and water quality, the application of which may take into account the local and regional variability of natural environments as determined by scientific studies;
- ensure that regulatory processes are clear, coordinated in their delivery, and administered with minimal delay; include time lines, wherever possible; maintain procedural fairness; and achieve their objectives in a cost-effective manner;
- ensure that the design or amendment of regulations is based on a sound, scientific approach and a cost-benefit analysis, and that administration and enforcement are supported by the monitoring of environmental effects to ensure compliance and verify environmental or human health impacts; and
- provide monitoring and reporting on progress in regulatory reform so that the Canadian public can judge progress in achieving sustainable development goals.

Consistent with the partnership approach taken in this Policy, and building on its belief that traditional regulatory approaches should be complemented by non-regulatory measures, the Government will also encourage the minerals and metals industry to continue to assume greater responsibility for environmental performance wherever it operates, and to be a steward for minerals and metals throughout their life cycle in a manner that is transparent and, where possible, measurable.

...encourage the minerals and metals industry to continue to assume greater responsibility for environmental performance...and to be a steward for minerals and metals throughout their life cycle...

The Government is also committed to improving regulatory efficiency in uranium mining and milling. To facilitate this, it recently amended the *Canada Labour Code* to allow for the delegation of regulatory responsibilities for labour matters, including conventional occupational health and safety, to the provinces. The Government will work closely with provincial governments, particularly the Government of Saskatchewan, to negotiate the transfer of these regulatory responsibilities to them when reasonable and practical.

HELPING EXPORTERS OF MINERALS AND METALS AND RELATED PRODUCTS AND SERVICES

Both commercial and non-commercial factors play a major role in the sourcing decisions of customers. For this reason, **the Government recognizes the need to cooperate with industry to facilitate enhanced exports and access to both traditional and new markets**, bearing in mind that the marketing of products and services remains a private sector responsibility. In this context, the Government will:

- provide timely, relevant and incisive market intelligence and reporting as a complement to private sector efforts;
- work to raise the profile of Canadian mineral and metal products and services, including environmentally related products and services in traditional and new markets; and
- continue to emphasize the need for greater market transparency for minerals and metals and the value of intergovernmental commodity study groups and other such information-sharing mechanisms.

IV. Minerals, Metals and Society: Promoting Products, Markets and Stewardship

THE POLICY SIGNIFICANCE OF ENVIRONMENTAL ISSUES RELATED TO MINERALS AND METALS

Minerals and metals are naturally occurring substances that are indispensable materials for the development of human societies. While it is recognized that trace amounts of a number of minerals and metals are essential to all life forms, the extraction and processing, as well as the particular uses, of certain minerals and metals can and have resulted in adverse effects on human health and the environment. The federal government is committed to mitigating these effects through an improved scientific understanding of the role and behaviour of these substances, through the implementation of sound risk reduction and management strategies, and through the administration of its jurisdictional responsibilities concerning human health and the environment.

Given Canada's role as a world leader in the production of minerals and metals, the management of issues related to health and the environment is a policy priority.

Life-Cycle Management

In managing minerals- and metals-related health and environmental issues, the principle of life-cycle management for both *process* and *product* life cycles plays an essential role:

- *Process* life-cycle management applies to specific operations and their associated risks in relation to the *production* of minerals and metals, such as exploration, extraction, processing, smelting and refining. It includes waste management, decommissioning and site rehabilitation.
- *Product* life-cycle management applies to specific elements, substances or products and their associated risks based on assessments of all stages in the cycle of manufacturing, use, re-use, recycling and disposal of that particular element, substance or product.

Risk Assessment and Management

Life-cycle management of minerals and metals involves the application of risk-assessment and risk-management approaches:

- Risk assessment estimates the degree and likelihood of adverse effects resulting from exposure to a substance from a process or product.
- Risk management is the process of deciding what to do about an assessed risk, taking into account the results of the assessment as well as legal, economic and social factors.

HEALTH AND THE ENVIRONMENT

The Safe Use Principle

The *Safe Use Principle* is an extension of life-cycle management, and incorporates risk-assessment and risk-management principles. Borrowed from occupational health and safety terminology and focused on use, the *Safe Use Principle* integrates the notion of "risk" with "use." As well, it builds on and complements the Government's *Toxic Substances Management Policy* (TSMP). The TSMP provides a framework for making science-based decisions on the effective management of toxic substances that are of concern because they are or may be released to the environment, or because Canadians may be exposed to them through the environment. The *Safe Use Principle* sends the message domestically and internationally that minerals and metals, and their products, can be used safely and responsibly.

The *Safe Use Principle*... recognizes that...minerals, metals and their products can be produced, used, re-used, recycled and returned to the environment in a manner that is consistent with sustainable development;

The TSMP, and by extension the *Safe Use Principle*, recognizes two points pertinent to minerals and metals and of importance to this Policy:

- naturally occurring substances, such as minerals and metals, cannot be virtually eliminated from the environment; and
- there are instances where certain products containing minerals and metals, or their uses, because of the associated risks, may be candidates for bans, phase-outs or virtual elimination of releases from specific anthropogenic sources.

The *Safe Use Principle*, in building on the TSMP, recognizes that:

- minerals, metals and their products can be produced, used, re-used, recycled and returned to the environment in a manner that is consistent with sustainable development;
- society enjoys important benefits from the use of these natural resources, in conjunction with their sound management;
- certain mineral- and metal-containing products may pose risks to human health or the environment and, as a consequence, need to be managed throughout their entire life cycle;
- naturally occurring inorganic substances, such as minerals and metals, behave differently than synthetic organic chemicals and, as a consequence, require different risk-management approaches; and
- minerals and metals, in and of themselves, are not candidates for bans, phase-outs or virtual elimination.

The Government supports the *Safe Use Principle* and will promote its implementation domestically and its adoption internationally as a policy approach for minerals and metals and their related products and uses.

Defining and Implementing the Safe Use Principle

The concept of safe use provides an approach for minerals and metals that follows well-established stewardship practices. In practical terms, the Principle calls for an assessment of the risks at various stages throughout the life cycle associated with the uses of a mineral- or metal-containing product. The results of the assessment are then used to determine the most appropriate management approaches to address these risks. It is generally accepted that, in some cases, the risks associated with certain products or product uses cannot be properly controlled or managed. Consequently, where such a situation exists, the Government will either discontinue or prohibit the specific product or product use.

In implementing the *Safe Use Principle*, and in the context of the TSMP, the Government will take the following approaches both domestically and internationally. The Government will:

- work with Canada's minerals and metals industry to develop and implement strategies that promote the *Safe Use Principle*. Such strategies would include, for example, the adoption of stewardship programs based on the life-cycle approach. The industry can and must play a leadership role in addressing health and environmental issues related to minerals and metals;
- ensure that Canada is a global leader in promoting the *Safe Use Principle* for environmental and health initiatives of relevance to minerals, metals and their products; and
- promote effective mechanisms to obtain and coordinate input from the provincial and territorial governments and others for the development of appropriate policy responses to scientific or technological advances in the safe management of minerals and metals and related products.

RECYCLING OF MINERALS AND METALS

With world population growth and rising standards of living, global demand for minerals and metals – as essential raw materials for economic and social development – continues to increase. This growth in demand presents governments with a range of policy issues concerning the sustainable use of minerals and metals and their availability for future generations.

There are a number of factors that will promote the continued availability of mineral and metal resources. While the pace of growth in demand dictates that virgin materials will remain the primary source of mineral and metal commodities, another important source is recycled materials. Because of their value, consistent performance characteristics, durability, chemical properties, and versatility of use, many minerals and metals can be re-used almost without limit. As a consequence, recycled materials are a vital secondary source of supply, and are traded on national and global markets based on long-term contracts or at spot market prices. The fact that recycling generates environmental benefits is an added and important dividend. **Recycling extends the efficient use of metals, reduces pressures on landfills and incinerators, and results in major energy**

savings relative to the level of energy inputs required to produce metals from primary sources.

Given these substantial benefits to Canadians, the Government of Canada, within its jurisdictional responsibilities and resources, will:

- work with the provinces and territories, industry, and other stakeholders to enhance the efficiency and effectiveness of regulations and remove unnecessary impediments to recycling;
- promote a more efficient metals recycling industry in Canada through better collection systems and technological advances in separation and recovery processes;
- encourage the development of products that take into account recyclability in their design; and
- promote, in both domestic and international fora, common approaches to the definition of waste that underline the need to differentiate between metal-bearing recyclable materials destined for recovery operations on the one hand, and wastes destined for final disposal on the other.

Recycling extends the efficient use of metals...

The lengthy history of metals recycling demonstrates that domestic and international trade in recyclable metals and metal-bearing materials generally operates on a commercial basis. These valuable metal commodities account for between 30 and 60 percent of the total world consumption of metals and should not be considered as wastes.

The Government recognizes that recyclable metals are captured by the current definition of "wastes" and that this description can inhibit their use. The Government has further recognized that these metals are essential raw material components in metallurgical industries.

The Government remains cognizant of its international obligations and will continue to consult with the provinces and other Canadian stakeholders in deliberations on the appropriate management of recyclable materials. In approaching these discussions, and without prejudice to their outcome, **the Government will follow a risk-based approach to the regulatory management of recyclable metals and metal-bearing materials**. This direction is fully in keeping with the Government's commitment to undertake steps to derive a logical definition of "wastes" (the current definition of "wastes" includes material destined for recycling) to be used in both domestic and international legislation, and to exempt secondary materials containing metals used in recycling from the boundary restrictions imposed by the *Basel Convention on the Transboundary Movement of Hazardous Wastes and Their Disposal.*

Consequently, so as not to impede the continued use of these valuable resources, **the Government will continue to work with the provinces and its international counterparts to apply appropriate movement and management controls to metals in relation to their risk to human health and the environment**. In undertaking discussions on the definition of waste, the Government will recognize existing international legal obligations, including the OECD Council Decisions, the *Canada-U.S. Agreement on the Transboundary Movement of Hazardous Waste,* and the *Basel Convention.* While the final outcome of domestic discussions on the management of recyclable metals is uncertain at this time, the Government will be guided by the following precepts in seeking to ensure that it provides for:

- normal commercial controls for recyclable metals and metal-bearing materials that do not exhibit hazard characteristics;
- appropriate regulatory controls for recyclable metals and metal-bearing materials that exhibit hazard characteristics, but do not need to be managed as if they are hazardous wastes, and whose risks to human health and the environment can be soundly managed under conditions of normal use; and
- hazardous waste-like regulatory controls for recyclable metals and metal-bearing materials that exhibit hazard characteristics and that, despite management, continue to pose unreasonable risks to the environment or where there is a history of mismanagement.

MINE RECLAMATION

Mine reclamation seeks to rehabilitate a mine site to a viable, and wherever practicable, self-sustaining, ecosystem that is compatible with a healthy environment and other human activities. The Government recognizes that the provinces oversee mine reclamation in their role as owners and managers of mineral resources. The federal government, however, has direct responsibilities in this area in the Yukon and Northwest Territories, and in relation to uranium. It also contributes to the resolution of mine reclamation issues at the national level through the administration of the fish habitat provisions of the *Fisheries Act*, the administration of the *Canadian Environmental Assessment Act*, and through its tax policies and science and technology activities.

...the Government will continue to play a central role with respect to the many scientific, technological and economic challenges associated with mine reclamation.

In this context, **the Government has a role in ensuring the reclamation of currently operating and future mine sites. Consequently, it will ensure that:**

- **post-production mine decommissioning and land reclamation are an integral part of the mine development process;**
- **financial provisions for the costs incurred in mine closure are accorded a level of priority similar to that given to start-up investment costs; and**
- **governments and industry work together to ensure that efficient mechanisms are developed to finance responsible closure practices.**

As well, the Government will continue to play a central role with respect to the many scientific, technological and economic challenges associated with mine reclamation. Priority areas for federal science and technology (S&T) activities relating to this issue are described in Part VI.

Consistent approaches, including continuous improvement based on the principle of best practices, are essential for efficient and effective mine reclamation. **The Government will ensure that, as a condition for mine development on federal lands, comprehensive plans for the reclamation of disturbed areas are developed, including the provision of satisfactory financial assurances to cover the costs of reclamation and, where necessary, long-term maintenance.**

In addition to the need to address issues related to present and future mine sites, the Government must also deal with problems associated with past practices that are no longer permitted. Such practices have led to numerous abandoned and orphaned mine sites,[3] some of which pose a risk to the environment, human health, or public safety.

The Government will work with other governments and industry to evaluate and develop alternative financing mechanisms that are acceptable to all stakeholders. In addition, more information on the number and condition of these sites is required. It is recognized that initiatives are under way in some provinces to conduct a survey of abandoned and orphaned mine sites. The Government is aware of the need for action to clean up those abandoned and orphaned mine sites within federal jurisdiction that represent an unacceptable risk to the environment or human health and safety. It also recognizes the need for the owner of the site, where one can be identified, to pay for the clean-up costs.

With respect to the reclamation of uranium mine and mill tailings, the Government has taken a comprehensive approach through amendments to the *Uranium and Thorium Mining Regulations* and other means, under the aegis of the Atomic Energy Control Board. As a related initiative, the Government has developed a policy framework, including financial and institutional responsibilities, for the disposal of all radioactive wastes. The principles contained in the framework apply equally to all radioactive waste categories.

LAND ACCESS AND PROTECTED AREAS

For the minerals and metals industry to continue to make its important contribution to the Canadian economy, new mineral deposits must be discovered. As well, for Canada to realize the full potential of its mineral endowment, the industry, within specified limits, must have access to the widest possible land base for exploration purposes.

3 Abandoned sites are those sites where an owner/operator can be identified but who no longer actively manages the property, and the rights have not yet reverted to the Crown. In some cases, the owner is insolvent or otherwise unable to pay for reclamation. In other cases, the owner/operator may be able to pay but has neglected to institute the proper reclamation activities for other reasons. Orphaned sites are those sites where an owner/operator of the mine site can no longer be identified and where the mineral rights have reverted to the Crown.

In the oceans territory of Canada, this access, as well as the conduct of minerals and metals activities, will be integrated within an oceans governance strategy adopted by the Government. This strategy is based on the integrated planning and management of ocean-related activities to protect the health and prosperity of ocean systems.

Along with access, governments should provide:

- reasonable certainty that when industry finds a mineral deposit, it may develop that deposit, provided that all statutory and regulatory obligations are met and the required approvals are obtained; and
- clear policies on mineral tenure, revocation and compensation that have been communicated to investors.

Protected Areas Commitments

Although access is crucial to industry and its continued contribution to Canada's economic well-being, it is also important that certain terrestrial and marine areas be protected from development. These areas make essential contributions to Canada's environmental health, biological diversity, and ecological processes. In this context, the Government is committed to:

- in cooperation with the provinces and territories, and Aboriginal communities, completing the federal network of National Parks by the year 2000 and accelerating the establishment of National Marine Conservation Areas. The Government will achieve its objectives by setting aside from industrial development (including mineral exploration and development activities) those protected areas required to achieve representation for Canada's 39 terrestrial and 29 marine natural regions;
- identifying and protecting terrestrial and marine critical wildlife habitat in Canada, including the implementation of federal legislation to protect endangered species and the establishment and management of marine wildlife areas;
- identifying and protecting oceans ecosystems and the resources they contain, including the development and designation of marine protected areas; and
- developing and implementing protected area strategies for federal lands and waters. The Government will continue to develop and implement a comprehensive coordinated approach for the establishment of all categories of protected areas in the Canadian offshore. In addition, the governments of Canada and the Northwest Territories, Aboriginal groups and interested parties will be working together to put a protected areas strategy in place in the Northwest Territories by the end of 1998. The strategy will recognize the existing contribution of federal and territorial protected areas, such as national parks, national wildlife areas, migratory bird sanctuaries, and territorial parks.

Establishing Protected Areas

In establishing and managing protected areas, the Government recognizes the minerals and metals industry's important contribution to Canada. It also recognizes the desirability of leaving federal lands, particularly those with high mineral potential, open for mineral development when this is consistent with federal legislation and government policies, and compatible with environmental and social objectives. Consequently, the Government will:

...the Government will... fully take into account the mineral potential of the area in question before taking decisions to create protected areas on federal lands;

- use the best available scientific, traditional and local knowledge pertaining to the natural environment, the geographic and demographic setting, as well as the mineral development potential of the areas, in developing policies and decisions respecting the identification, selection and establishment of protected areas;
- fully take into account the mineral potential of the area in question before taking decisions to create protected areas on federal lands;
- impose land withdrawals that preclude mineral development activities only when specific conditions justify such action, and only after economic and social impacts have been carefully considered. These interim land withdrawals are to be for periods of up to five years, and can be renewed with justification following consultation with affected ministers;

- take decisions only after stakeholders, especially local and Aboriginal communities, industry and non-governmental organizations, have been consulted; and
- enhance its ongoing efforts to collaborate with the provincial and territorial governments, appropriate local and Aboriginal communities, and key stakeholders to facilitate the design, coordination and implementation of federal-provincial networks of protected areas.

V. Aboriginal Communities: Promoting Involvement in Minerals and Metals Activities

The Government acknowledges important Aboriginal concerns and interests that are related to mineral development, particularly:

- a relationship between the political aspirations and rights of Aboriginal peoples and mineral development;
- the significant potential contribution of exploration and mineral development to the economic well-being of Aboriginal peoples;
- the potential adverse impacts of mineral development on the social structures of Aboriginal peoples; and
- the potential contribution that information, including traditional knowledge, can make in relation to the planning and assessment of proposed projects.

The Government of Canada respects existing provincial, territorial and municipal mechanisms for mineral development. Within matters of federal jurisdiction, it promotes cost-effective regimes for the sustainable development of minerals and metals on lands under claim, settlement areas, and Indian reserves.

Federal policies vary depending on whether the mining development takes place on Indian reserves, lands involved in claims negotiations, other federal lands, or off-reserve provincial lands. When development occurs on Indian reserves, the Government, in carrying out its responsibilities under the *Indian Act*, has as objectives: a fair return to the First Nations from their minerals, protection of the environment, rehabilitation and restoration of the site for future generations, and First Nations involvement in projects, in keeping with their aspirations. Through mechanisms such as the First Nations lands initiative and the federal policy on the inherent right of self-government, the Government encourages First Nations control over reserve lands and resources.

The Government affirms its support for the timely resolution of land claims to remove uncertainty over the ownership and use of land and resources, and to encourage self-reliance by Aboriginal communities and promote their participation in economic opportunities.

Off-reserve federal lands are located primarily in the Yukon and Northwest Territories. With respect to development on these lands, the Government recognizes Aboriginal concerns about the effect of mineral exploration and development on traditional lifestyles and the environment. It also recognizes the desire of Aboriginal peoples to be involved in decision-making, and to participate in the economic benefits derived from exploration and development activities. Subject to land claim settlements and territorial jurisdiction, the Government is of the view that these interests should be addressed through timely notification of developments and environmental assessment processes that identify and mitigate environmental concerns.

The Government affirms its support for the timely resolution of land claims...

Where mineral development occurs on land under provincial jurisdiction, the federal government has an interest regarding the effect of these developments on federal lands, including Indian reserves, and on Aboriginal communities located outside federal lands. The federal government provides funding to Aboriginal communities to negotiate economic benefit agreements with developers.

The Government believes that collaboration between the industry and Aboriginal communities related to local mineral development should be encouraged. One mechanism for encouraging such collaboration is the Aboriginal Participation in Mining Sub-Committee of the Intergovernmental Working Group on the Mineral Industry (IGWG).

With respect to large-scale projects, where several government agencies – federal, provincial and/or territorial – and other stakeholders have an interest or responsibility, the Government supports the partnership approach described in this Policy in working with these parties to address major issues. Approaches that are tested and found to be successful in this context will be reviewed for their possible broader application.

VI. Science and Technology: Progress through Innovation

As articulated in *Science and Technology for the New Century: A Federal Strategy*, the Government of Canada recognizes the critical role played by science and technology (S&T) in three broad areas: the health and well-being of Canadians, our ability to protect the environment, and our success in creating jobs and fostering economic growth.

As a consequence, the Government, in acknowledging its responsibility as a major participant in Canada's "innovation system," established three related goals for its science and technology activities: job creation and economic growth, improved quality of life, and the advancement of knowledge. The Government recognizes the interdependence of these three goals and the need to pursue them in a mutually reinforcing manner. By focusing on these goals, Canada's S&T activities related to minerals and metals will continue to support sustainable development objectives.

...Canada's S&T activities related to minerals and metals will continue to support sustainable development objectives.

In addition to focusing on these three goals in an integrated manner, the Government will take the following approach:

- minerals- and metals-related policies will be based on sound science; and
- science activities should be informed by, and responsive to, public policy priorities.

For these reasons, **the Government supports stronger links between scientific and policy organizations who work on common topics**. Such linkages will better serve the needs of stakeholders, as well as society as a whole.

FEDERAL SCIENCE AND TECHNOLOGY IN MINERALS AND METALS

In its approach to S&T activities in relation to minerals and metals, the Government will pursue the following goals:

- promote enhanced productivity of the industry through collaborative efforts focused on technological innovation;
- provide a window and access point for Canadian companies – particularly small- and medium-sized enterprises – to acquire international minerals- and metals-related S&T;
- evaluate external technological developments to assess their usefulness and value to Canadian operations in the minerals and metals sector and the degree to which they complement and build upon Canada's own S&T advances;
- promote the transfer of technologies within Canada in order to transform research into exploitable know-how and to promote the sharing of expertise among all participants;
- provide Canadians with the geoscience and geomatics knowledge and infrastructure to support public policy objectives and furnish Canadians with the information, expertise and technologies necessary to exploit domestic and foreign markets;
- facilitate collaborative approaches to problems for which national effort and coordination are necessary;
- share internationally Canada's scientific and technological experience and expertise in implementing sustainable development in the area of minerals and metals and, in particular, with developing countries and international development assistance agencies;
- promote the development of environmental protection and pollution prevention technologies – equipment and processes – in partnership with other federal stakeholders, industry, and the provinces and territories; and
- work with industry to realize more benefits in terms of employment and revenues from mineral and metal resources through value-added manufacturing of mineral- and metal-based products.

THE IMPORTANCE OF PARTNERSHIPS

Federal S&T organizations working on minerals- and metals-related activities include the Canada Centre for Mineral and Energy Technology (CANMET), Geomatics Canada, and the Geological Survey of

Canada (GSC), as well as Agriculture and Agri-Food Canada, the Department of Fisheries and Oceans, Environment Canada, Health Canada, and the National Research Council. In pursuing the above goals, these organizations, individually and cooperatively, will work towards the further development of partnerships with industry, provincial and territorial governments, international organizations, government agencies in other countries, academic research institutions, and other groups actively involved in S&T.

The Government will continue to promote partnerships among stakeholders to ensure that:

- programs are delivered with maximum efficiency;
- synergies across programs are exploited fully;
- governments can develop long-term S&T research strategies and goals; and
- activities – either by the federal government or others – are enhanced.

Mechanisms such as the Memorandum of Understanding between Agriculture and Agri-Food Canada, Environment Canada, the Department of Fisheries and Oceans, and Natural Resources Canada ("Science and Technology for Sustainable Development in the Natural Resource Sectors") and the *Intergovernmental Geoscience Accord* are considered important to the creation of further opportunities for collaboration and cooperation.

STRATEGIC DIRECTIONS IN SCIENCE AND TECHNOLOGY

The Government, in consultation with the provinces and territories and other stakeholders, is committed to the following broad strategic and long-term directions in the area of S&T and minerals and metals:

Providing a Comprehensive Geoscience Knowledge Base

Knowledge of the landmass is fundamental to sustainable development, including efforts to ensure resource adequacy and sound environmental stewardship. In particular, geoscience maps, data and concepts provided by governments play an important role in attracting investment and in enhancing the cost-effectiveness of mineral exploration. To this end, the Government will:

- give stakeholders a greater role in determining the Government's geoscience priorities through the advisory structure established under the federal-provincial geoscience accords;
- use geoscience mapping programs to achieve a balance between areas of high development potential, where enhanced knowledge will increase the probability of discovery of new reserves, and frontier areas, particularly in the North, where new maps will attract investment and increase exploration efficiency. Collaborative projects with the provincial and territorial geological surveys under the National Geoscience Mapping Program (NATMAP) will be an important mechanism for the delivery of this work;

Knowledge of the landmass is fundamental to sustainable development...

- promote the development of innovative exploration methods that will help industry discover the deeply buried orebodies needed to sustain production in existing mining districts. The multi-disciplinary approach exemplified by the GSC's Exploration Science and Technology (EXTECH) Program will be a key element of this initiative;
- improve the understanding of the relative contributions from natural and anthropogenic sources to metal loadings in the environment and the significance of the long-range atmospheric transport of metals in the atmosphere, and establish the natural background concentrations of metals as a basis for environmental impact assessments; and
- further enhance the timely dissemination of geoscientific maps and data through the application of state-of-the-art information technologies.

Supporting a Sustainable Minerals and Metals Industry

An effective response to many of the sustainable development challenges facing the minerals and metals industry largely depends on the development and use of S&T to promote technological innovation and to improve the knowledge base for decision-makers. In recognition of this, the Government will give the following areas priority attention in federal S&T activities in minerals and metals:

- *Sustainable Mining Operations*

  Work will address acidic drainage and effluents, aquatic effects monitoring, and mine decommissioning and rehabilitation, including:

  - negotiating with the provinces and territories for the development of a national repository of physical, chemical and biological data on mine sites, building on the federal government's current cooperative activities with Ontario and Nova Scotia;
  - conducting research into improved high-strength, high-density fill systems;
  - continuing laboratory and field studies on underwater and other methods for the disposal of reactive wastes, and research into the restoration of affected land and waters to environmentally acceptable standards; and
  - transferring to the private sector, through the Mine Environment Neutral Drainage (MEND) program, technology that enhances our ability to predict, prevent, control and treat acidic drainage.

- *Safe and Efficient Processing and Use of Minerals and Metals*

  Attention will focus on:

  - developing more efficient and environmentally friendly production and conversion processes;
  - extending the effective life of metal products;
  - reducing energy consumption entailed in product use, as well as employing other strategies to reduce adverse environmental impacts that may arise in the use of mineral- and metal-based products;
  - maximizing the acceptance of recycled materials in the production of metal parts and developing technologies to facilitate recycling; and
  - providing a sound scientific base and technology for the development of policies and regulations in relation to metals and the environment.

Enhancing the Health and Safety of Canadians

The Government recognizes that S&T related to minerals and metals can play a vital role in enhancing the health and safety of workers and other Canadians. In support of this objective, the Government will give the following areas priority attention:

- the underground mine environment;
- ground stability and control;
- testing of equipment for underground use;
- technical support for the development of standards and regulations addressing worker safety and health in mining operations; and
- extension of the service reliability of Canadian infrastructure (i.e., oil and gas pipelines, transportation, and offshore structures).

Consistent with its theme of partnerships, the Government supports the continued development of its linkages with the industry, the provinces and territories, and others. This will include exploring, with provincial and territorial mine inspectorates, possible increased collaboration in S&T.

Promoting the Competitiveness of the Canadian Industry

S&T are essential tools in support of the competitiveness of the Canadian minerals and metals industry. S&T can assist in spurring innovation that leads to reduced costs, increased productivity, and achievement of environmental standards. The Government will focus on the following areas in seeking to utilize S&T to improve the competitive position of the Canadian minerals and metals industry:

S&T are essential tools in support of the competitiveness of the Canadian minerals and metals industry.

- understanding the genesis of mineral deposits;
- exploration technology;
- mine mechanization and automation;
- metallurgical processing;
- increased energy and materials efficiencies in manufacturing; and
- the re-use and recycling of mineral and metal products.

The Government recognizes the importance of ensuring that its S&T activities assist Canadian enterprises in their development of export opportunities. As a consequence, the Government will:

- support efforts to develop international technical standards for product specifications to facilitate trade in mineral commodities; and
- promote international sales of Canadian expertise and technologies in areas such as mineral exploration and development, environmental monitoring, pollution prevention and control, and site rehabilitation.

Developing Value-Added Mineral and Metal Products

The production of value-added mineral and metal products is an important source of jobs for Canadians, especially as the primary production of mineral and metal commodities becomes increasingly globalized. Through its science and technology programs, the Government provides assistance to this sector in its efforts to achieve sustainable development goals, for example, in the areas of environmental quality, safety, and the efficient use of energy and materials.

The Government will continue to provide assistance to the value-added sector, including the following activities:

- implementing the Technology Partnerships Canada program, a collaborative initiative by the Government with Canadian business to enhance technological innovation, competitiveness, and productivity;
- identifying Natural Resources Canada as a hub for cooperative metals and materials research in Canada through active negotiation of collaborative research agreements with organizations that have common interests and complementary programs; and
- developing, in partnership with industry, technologies to improve the manufacturing processes for, and the performance of, mineral- and metal-based products.

VII. Minerals and Metals at the International Level: Providing Leadership in the Implementation of Sustainable Development

Minerals and metals are vital to modern industrial activity, global development and quality of life. Whether from naturally occurring or anthropogenic sources, they have an impact on the daily lives of every inhabitant of our planet. Although mining activity is domestic, markets are global, as is the competition for investment capital. The environmental impact of minerals and metals extraction, processing, use, re-use, production, transportation, recycling, or disposal does not always respect borders. Associated social issues have had an increasingly international dimension. The international nature of many of the pressures on the sector will necessarily influence the type of partnerships, programs and activities that need to be developed in response. Canada's global role in the sustainable development of minerals and metals is elaborated below. In playing that role, Canada has developed an approach that is assertive, action-oriented, and cognizant of multi-stakeholder interests. It is a role the international community expects of us.

TRADE LIBERALIZATION AND INVESTMENT

Canada is the world's largest exporter of minerals and metals, exporting approximately 60 different mineral commodities to over 100 countries around the globe. Canada is also a major exporter of downstream, value-added mineral- and metal-related products, as well as environmentally sound technologies. As a major trading nation, and as the home of several large, integrated multinational minerals and metals producers, as well as a growing number of junior mining companies involved in direct investment, and exploration and development activities abroad, Canada is dependent on transparent, predictable, rules-based international trade and investment regimes. The World Trade Organization (WTO) is an essential forum for their pursuit. Also important is the work being done under the auspices of the Organization for Economic Co-operation and Development (OECD) – in particular, current efforts to develop a multilateral international investment framework. Free trade areas, such as the *North American Free Trade Agreement (NAFTA),* and bilateral agreements can advance global free trade by promoting the flow of goods, services and investment through the progressive lowering of tariffs and elimination of non-tariff barriers.

Canada is the world's largest exporter of minerals and metals...

The Government will promote:

- the progressive reduction in tariffs on mineral and metal commodities and products;
- the elimination of unjustifiable non-tariff barriers that impede the industry's access to international markets;
- the use of existing trade remedy and dispute settlement mechanisms to redress unjustified health and environmental standards that restrict trade;
- the expansion of free trade areas such as the one established under NAFTA;
- a multilateral framework of rules that will protect and promote international investment; and
- appropriate bilateral double taxation and foreign investment protection agreements.

SOUND MANAGEMENT OF MINERALS AND METALS

As for other sectors, the international community is grappling with the translation of sustainable development of minerals and metals into practice. Environmental, health and labour standard initiatives have the potential to affect the competitiveness and acceptability of mineral and metal products in the marketplace. Canada is expected to play a defining role in international fora engaged in the development of instruments aimed at viable long-term solutions to problems of sustainable development. Central to Canadian approaches are the concepts of risk assessment, risk management, and the *Safe Use Principle.*

A number of international institutions are involved. The Intergovernmental Forum for Chemical Safety (IFCS) was established to identify priorities for cooperative action in pursuit of Chapter 19 of the Rio Summit's *Agenda 21,* which addresses the

Environmentally Sound Management of Toxic Chemicals. The United Nations Environment Programme (UNEP) and other United Nations bodies, including the Commission on Sustainable Development (CSD), the Economic Commission for Europe (ECE), the International Maritime Organization (IMO), and the Interorganization for the Sound Management of Chemicals (IOMC), are active on a variety of initiatives, including a Prior Informed Consent Convention and a *Heavy Metals Protocol* to the *ECE Convention on Long-Range Transboundary Air Pollution.*

The OECD is playing a lead role on a number of fronts, including the development of an approach to the management of trade in hazardous waste destined for recycling. Its risk reduction program has led to pilot projects for five chemicals and, in particular, the voluntary industry Action Program on lead. Intergovernmental commodity study groups are also playing an increasing role in the development and implementation of such initiatives.

Increased global cooperation has fostered a variety of mechanisms to address environmental, health and safety concerns related to particular minerals and metals. The experience of recent years, however, has yielded important lessons. There is a recognition of the need to be creative in developing approaches that are practical, effective and, where necessary, legally enforceable. The goal is to address environmental, health and safety concerns while ensuring that society continues to derive the benefits from the responsible use of minerals and metals. The potential adverse economic consequences of the various instruments will require close attention. It will also be important to differentiate more clearly between minerals and metals and other chemicals in the development of such instruments.

The Government will seek to ensure that international approaches allow for the safe production, transportation, use, re-use, recycling or disposal of mineral and metal products and raw materials, as well as the appropriate regulatory measures for managing products and materials that exhibit risk factors of concern.

The Government will promote consideration of an integrated mechanism for the sound management of chemicals, providing for the full range of appropriate instruments from legally binding agreements to government-sponsored non-regulatory approaches to voluntary industry initiatives.

The Government will continue to support the development of multilateral environmental agreements (MEAs) that are environmentally effective, science-based, and take into account economic and social considerations.

Canada is expected to play a defining role in international fora...

Trade measures have been used to enforce MEAs and to prevent non-parties from circumventing obligations contained in an agreement. They are, however, generally not a first best option and should only be considered when the policy objectives of the agreement would otherwise be thwarted. The relationship between the use of trade measures in MEAs and international trade rules is currently under examination by the WTO.

Where trade provisions are considered necessary, the Government will seek to ensure that:

(i) all other reasonable approaches to achieving the desired outcome have been properly evaluated and have been deemed to be ineffective;

(ii) the selected approach is consistent with Canada's international trade obligations and established government policies and programs; and

(iii) the selected measure is the least trade-restrictive available and is not intended to confer a competitive advantage.

Social policy issues are also being addressed, notably in the World Health Organization and the International Labour Organization (ILO). An ILO Convention and Recommendation on Safety and Health in Mines, adopted in 1995, set comprehensive international standards to improve safety and health for the 25 million workers directly involved in mining. The Government will be examining the implementation of these instruments in consultation with the

provinces, including the possible future ratification of the Convention. Canadian initiatives such as the Workplace Hazardous Materials Information System (WHMIS), which is designed to ensure that information on hazardous products is consistently and systematically transferred from suppliers to employers to workers on a national basis, have been favourably viewed internationally. Human rights questions, including child labour abroad, will receive increasing attention.

BILATERAL AND REGIONAL COOPERATION

Traditionally, Canada has benefitted from bilateral working groups, such as the Canada-EU Metals and Minerals Working Group, as fora for consultations aimed at market transparency and economic cooperation. Increasingly, these fora have provided opportunities for raising sustainable development concerns. A number of countries in the Americas are major producers of minerals and metals and look to Canada as an example of workable and sustainable development-based policy approaches. Memoranda of Understanding can provide a framework for enhanced cooperation, as can regional initiatives such as the Mines Ministers of the Americas meetings. Similarly, the Government supports the work of such regional bodies as the NAFTA Environment Commission and the Asia-Pacific Economic Cooperation (APEC) Expert Group on Minerals and Energy Exploration and Development (GEMEED).

The Government affirms its commitment, through bilateral and regional initiatives, to promote the sustainable development of minerals and metals and to develop, where resources permit, partnerships with countries that share our views and concerns.

TECHNICAL COOPERATION

Over the past 130 years, Canada has developed the knowledge, expertise and world-class technology in mining that enables it to play a leadership role. With this foundation, Canada provides policy advice and scientific and technological assistance to developing countries that are trying to respond to the sustainable development challenge in the context of minerals and metals. For example, the Canadian International Development Agency (CIDA), through the Canada Centre for Mineral and Energy Technology (CANMET) and the Geological Survey of Canada (GSC), has played a major role to this end. In a multilateral setting, Canada has also played a role through mechanisms such as training and education programs, and technology transfer workshops, hosted, for example, under OECD auspices or conducted as part of the *Basel Convention* implementation process. As a goal, the Government, within the scope of existing resources, will continue to promote its willingness to share Canada's experience and expertise in implementing sustainable development in the area of minerals and metals, particularly with developing countries and international development assistance agencies.

CONSULTATIONS WITH STAKEHOLDERS

Responding to diverse issues and policy pressures requires that governments be well informed about the interests and viewpoints of the many stakeholders likely to be affected. To promote the free exchange of information between the federal government and affected stakeholders, transparency and effective means of communication are essential. Therefore, the Government is committed to managing its participation in multilateral fora to ensure clarity and transparency for clients. Whenever possible, Canadian positions will be developed in consultation with the provinces and territories, and with input from the industry, the environmental community, and other stakeholders.

VIII. Measurement and Follow-Up

CRITERIA AND INDICATORS

The Government recognizes that criteria and indicators are essential because they help us to measure progress by industry toward the achievement of sustainable development. Accordingly, **the Government views the development of sustainability criteria related to environmental, economic and social objectives and indicators for minerals and metals as a priority**. It also acknowledges that the formulation of criteria and indicators should be a collaborative undertaking involving all stakeholders, and is prepared to work with the provinces and territories, and other stakeholders, in this area.

IMPLEMENTATION AND ACCOUNTABILITY

The Government acknowledges that the implementation of the Minerals and Metals Policy will only be successful through ongoing accountability for, and assessment of, results. For this reason, the Minister of Natural Resources will, in cooperation with other federal departments and agencies, issue periodic progress reports on the implementation of this Policy.

Public accountability for the implementation of the Policy will also be ensured through the Commissioner of the Environment and Sustainable Development in the Office of the Auditor General.

In implementing this Policy, the Government will take into account appropriate internationally established standards and Canada's international commitments to sustainable development and to free trade. By working bilaterally and multilaterally with other countries, and through international fora such as the United Nations and its agencies, the OECD, and the WTO, **Canada will promote the Policy's objectives and strategies, including the sustainable development of minerals and metals, both domestically and internationally**.